# Eclipse ThermJet Burners
## for Preheated Combustion Air
### Model TJPCA1000

**Version 2**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maximum Input, Btu/h (kW)</strong></td>
<td>Natural Gas: 10,000,000 (2638)</td>
</tr>
<tr>
<td><strong>Minimum Input, Btu/h (kW)</strong></td>
<td>Natural Gas: 1,000,000 (264)</td>
</tr>
<tr>
<td><strong>Main Gas Inlet Pressure, &quot;w.c. (mbar)</strong></td>
<td>Ambient: 5.5 (13.7)</td>
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<tr>
<td><strong>Fuel pressure at gas inlet</strong></td>
<td>300°F (150°C): 7.1 (17.7)</td>
</tr>
<tr>
<td><strong>Tap B (see page 3)</strong></td>
<td>700°F (370°C): 10.1 (25.1)</td>
</tr>
<tr>
<td><strong>Air Inlet Pressure, &quot;w.c. (mbar)</strong></td>
<td>Ambient: 4.0 (10.0)</td>
</tr>
<tr>
<td><strong>15% excess air at maximum input</strong></td>
<td>300°F (150°C): 5.6 (13.9)</td>
</tr>
<tr>
<td></td>
<td>700°F (370°C): 8.6 (21.4)</td>
</tr>
<tr>
<td><strong>Maximum Preheated Air Temperature</strong></td>
<td>700°F (370°C)</td>
</tr>
<tr>
<td><strong>High Fire Visible Flame Length, inches (mm)</strong></td>
<td>&lt;149.0 (3785)</td>
</tr>
<tr>
<td><strong>Measured from the outlet end of combustor</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Flame Detection</strong></td>
<td>UV scanner available for all combustors.</td>
</tr>
<tr>
<td><strong>Fuels</strong></td>
<td>Natural gas, Propane, or Butane</td>
</tr>
<tr>
<td><strong>For any other mixed gas, contact Eclipse for orifice sizing.</strong></td>
<td></td>
</tr>
</tbody>
</table>

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1. All imperial inputs based upon gross calorific values (HHV). All metric inputs based upon net calorific values (LHV).
2. See Design Guide 205 for more information about typical fuel composition and properties.
   - All information is based on laboratory testing in neutral (0 "w.c., 0 mbar) pressure chamber. Different chamber conditions may affect the data.
   - All information is based on standard combustor design. Changes in combustor will alter performance and pressures.
   - All inputs based upon standard conditions; 1 atmosphere, 70°F (21°C).
   - Eclipse reserves the right to change the construction and/or configuration of our products at any time without being obliged to adjust earlier supplies accordingly.
   - Plumbing of air and gas will affect accuracy of orifice readings. All information is based on generally acceptable air and gas piping practices.
Performance Graphs

Ignition and Operation Zone

Fuel Orifice $\Delta p$ vs. Input
($\Delta p$ Measured Between Taps B and D)

Ignition Zone
Operational Zone

Natural Gas $\Delta p$ - 52 mm orifice
Propane $\Delta p$ - 33 mm orifice
Butane $\Delta p$ - 29 mm orifice
**Dimensions and Specifications**

*Dimensions in mm (inches)*

**Burner Housing**

![Burner Housing Diagram]

- **Fuel Inlet**: 3" NPT / Rc 3.0
- **Fuel Inlet**: 3" NPT / Rc 3.0
- **UV Scanner Adapter**: 286.8 (11.3)
- **Spark Plug**: 424 (16.7)
- **Peepsight**: 227 (8.9)
- **Air Inlet**: 129.5 (5.1)
- **Burner weight less combustor**: 133 lbs (60 kg)

**Tap Locations**

- **Tap C**
- **Tap D**
- **Tap B**

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Eclipse ThermJet Preheated Combustion Air TJPCA1000, V2, Datasheet 206-11, 9/20/2014
Dimensions and Specifications
Dimensions in mm (inches)

Combustors

Alloy Combustor (AISI 310)
Weight: 21 lbs (9.5 kg)
Maximum Chamber Temp: 1,750°F (950°C)
[Not Suitable for Preheated Air Over 700°F (371°C)]

Refractory Combustor with AISI 330 wrapper
Weight: 310 lbs (141 kg)
Maximum Chamber Temp: 2,800°F (1,538°C)

Down Firing Block with AISI 330 wrapper
Weight: 290 lbs (131.5 kg)
Maximum Chamber Temp: 2,800°F (1,538°C)

NOTE: Mounting gasket shown on right side of combustor flange.
Dimensions shown do not account for mounting gasket.